LEGEND

SYMBOL	ABBREV.	DESCRIPTION
R		DUCT RISE
D		DUCT DROP
		BRANCH TAKE OFF WITH 45° BOOT
	T.V.	TURNING VANES
		DUCT SECT. - SUPPLY
		DUCT SECT. -RET.
		DUCT SECT. - EXHAUST
		EXISTING DUCT/PIPE TO BE REMOVED
		EXISTING DUCT/PIPE TO REMAIN
		NEW DUCT OR PIPE
		RETURN AIR DUCT W/ LINING
	CD./SAG.	CEILING DIFFUSER/SUPPLY AIR GRILLE
	C.R.	CEILING REGISTER
		EXHAUST AIR GRILLE CLG. MOUNTED
	F.D.	FIRE DAMPER (EXIST.)
	F.D.	NEW FIRE DAMPER
	M.V.D.	MANUAL VOLUME DAMPER
	D.L.	DOOR LOUVER
	U.C.	UNDERCUT DOOR
		DIRECTION OF FLOW
T		THERMOSTAT
	P.O.C.	POINT OF CONNECTION
	P.O.D.	POINT OF DISCONNECTION
	MD	MOTORIZED DAMPER
Ø		DIAMETER
	BDD	BACKDRAFT DAMPER
SD	SD	SMOKE DETECTOR
	CV	CHECK VALVE
	BV	BUTTERFLY VALVE
	GV	GATE VALVE
		BALL VALVE
		THERMOMETER
	PG	PRESSURE GAGE
C		PIPE DROP
		PIPE RISE
		STRAINER
		2-WAY CONTROL VALVE
DPS	DPS	DIFFERENTIAL PRESS SWITCH
		GLOBE VALVE (THROTTLING VALVE)
VFD	VFD	VARIABLE FREQUENCY DRIVE

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AC	AIR CONDITIONING	HORIZ.	HORIZONTAL
AFS	AIR FLOW STATION	HP.	HORSE POWER
ANCH.	ANCHOR	HZ	HERTZ
AFF.	ABOVE FINISHED FLOOR	IN.	INCHES
AD	ACCESS DOOR	INSUL.	INSULATION
AHU	AIR HANDLING UNIT	KG.	KILOGRAM
APD	AIR PRESSURE DROP	KW	KILOWATT
APPROX.	APPROXIMATE	L	LENGTH
ARCH.	ARCHITECTURAL	LAT	LEAVING AIR TEMP
ASSY.	ASSEMBLY	L/S	LITER PER SECOND
AUTO.	AUTOMATIC	LWT	LEAVING WATER TEMPERATURE
BD	BYPASS DECK	MD	MOTOR DAMPER
BLDG.	BUILDING	M	METER
BOP	BOTTOM OF PIPE	M/H	METER PER HOUR
BOT.	BOTTOM	MAX.	MAXIMUM
BDD	BACKDRAFT DAMPER	MB	MIXING BOX
℄	CENTER LINE	MCA	MINIMUM CIRCUIT AMPERE
°C	CENTIGRADE	MECH.	MECHANICAL
CM	CENTIMETER	M.H.	MANHOLE
CD	COLD DECK SUPPLY AIR	MIN.	MINIMUM
CC	CODLING COIL	MBH	THOUSAND BTU PER HOUR
CFM	CUBIC FEET PER MINUTE	MFR.	MANUFACTURER
CFH	CUBIC FEET PER HOUR	N.C.	NORMALLY CLOSED
COND.	CONDENSATE	N.O	NORMALLY OPEN
CONN.	CONNECT/CONNECTION	NOM.	NOMINAL
CONT.	CONTINUATION	N.T.S.	NOT TO SCALE
DB	DRY BULB	PD	PRESSURE DROP
DDC	DIRECT DIGITAL CONTROL	PH	PHASE
DP	DEEP	PH-1	PENTHOUSE 1
DET.	DETAIL	P.O.C.	POINT OF CONNECTION
DIA.	DIAMETER	P.O.D.	POINT OF DISCONNECTION
DPS	DIFFERENTIAL PRESSURE SWITCH	PLEN.	PLENUM
DISC.	DISCONNECT	PR.	PAIR
DISCH.	DISCHARGE	PSI	POUNDS PER SQUARE INCH
DN.	DOWN	PRESS.	PRESSURE
D.T.R.	DOWN THRU ROOF	P.R.V.	PRESSURE REGULATING VALVE
DWG.	DRAWING	PS	PRESSURE SWITCH
EA.	EACH	PT.	POINT
EAT	ENTERING AIR TEMP	P.V.	PLUG VALVE
ECON	ECONOMIZER	(R)	RELOCATED
EDB	ENTERING DRY BULB	RA.	RETURN AIR
EF	EXHAUST FAN	RAD.	RETURN AIR DUCT
EER	ENERGY EFFICIENCY RATIO	RAR	RETURN AIR REGISTER
EFF	EFFICIENCY	REQ'D.	REQUIRED
EL	ELEVATION	RF	RETURN FAN
EQUIP.	EQUIPMENT	RLA	RATED LOAD AMPERE
EWB	ENTERING WET BULB	RM.	ROOM
EWT	ENTERING WATER TEMPERATURE	SA.	SUPPLY AIR
ESP	EXTERNAL STATIC PRESSURE	SAD.	SUPPLY AIR DUCT
EXH.	EXHAUST	SAR.	SUPPLY AIR REGISTER
(E) / EXIST.	EXISTING	SF	SUPPLY FAN
°F	FAHRENHEIT	SD	SMOKE DETECTOR
FIN.	FINISH	SP	STATIC PRESSURE
F / FILT.	FILTER	S.O.V.	SHUT OFF VALVE
FD	FLOOR DRAIN	SHT.	SHEET
FLA	FULL LOAD AMPERE	SUSP.	SUSPENDED
F	FILTER	TEFC	TOTALLY ENCLOSED FAN COOLED
FLR.	FLOOR	TEMP.	TEMPERATURE
FPM	FEET PER MINUTE	T	THERMOSTAT
FT.	FOOT/FEET	TSP	TOTAL STATIC PRESSURE
FV	FACE VELOCITY	TYP.	TYPICAL
GA.	GAUGE	UTR	UP THRU ROOF
GAL.	GALLON	VAC	VACUUM
GALV. / G.I.	GALVANIZED	VAV	VARIABLE AIR VOLUME
G.P.M.	GALLON PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
G.V.	GATE VALVE	W/	WITH
HD	HOT DECK SUPPLY AIR	WB	WET BULB
HC	HEATING COIL	WPD	WATER PRESSURE DROP
HTU	HEATING UNIT	WG	WATER GAUGE
HWS	HOT WATER SUPPLY	WMS	WIRE MESH SCREEN
HWR	HOT WATER RETURN		

MECHANICAL NOTES:

1. ALL WORK, INCLUDING MATERIALS AND WORKMANSHIP, SHALL CONFORM TO 1994 UBC, UMC, UPC, T-24 ENERGY CODE, NEC, NFPA 90A, AND OTHER LAWS, ORDINANCES AND STANDARDS SHOWN ON DRAWINGS AND IN THE SPECIFICATIONS. CONSTRUCTION SHALL COMPLY WITH THE MOST STRINGENT CODES.
2. CONTRACTOR SHALL VISIT THE SITE, AND VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS PRIOR TO THE START OF WORK. ANY CONFLICTS SHALL BE IDENTIFIED AND SUBMITTED FOR CLARIFICATION TO THE CONTRACTING OFFICER PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL FURNISH, INSTALL/ERECT AND MAINTAIN FOR THE DURATION OF HIS WORK, ALL GUARD RAILINGS, LIGHTS, WARNING SIGNS, STAGING, VENTILATION, ETC. REQUIRED BY LOCAL AND STATE LAWS AND ORDINANCES, INCLUDING THE SAFETY ORDERS FOR OSHA.
4. IT IS THE INTENT OF THESE PLANS THAT A COMPLETE AND WORKABLE MECHANICAL INSTALLATION BE PROVIDED FOR ALL ITEMS SHOWN IN THIS CONTRACT. FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN SUCH AS COUPLINGS, HANGERS, ELBOWS, ETC.
5. ALL MISCELLANEOUS IRON AND STEEL WORK REQUIRED TO PROPERLY INSTALL THE MECHANICAL WORK, AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WORK INCLUDES ALL HANGERS, SUPPORTS, RACKS, BRACKETS AND ANY WELDING REQUIRED. ALL MISCELLANEOUS METAL EXPOSED TO WEATHER SHALL BE GALVANIZED.
6. THE CONTRACTOR SHALL AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH. MAINTAIN WORK AREA IN A NEAT, ORDERLY MANNER AND LEAVE PREMISES IN BROOM-CLEAN CONDITION AT THE END OF EACH DAY AND AT THE COMPLETION OF ALL PHASES OF WORK. ALL REFUSE SHALL BE REMOVED FROM THE BUILDING AND DEPOSITED IN TRASH BINS. CONTRACTOR SHALL FURNISH TRASH BINS AND BE RESPONSIBLE FOR TRASH REMOVAL FROM PREMISES.
7. CONTRACTOR INSTALLED EQUIPMENT & SUPPLIED MATERIALS INCLUDING ALL REQUIRED SUPPORTS, BRACING AND CONNECTIONS SHALL BE INSTALLED, SEISMICALLY-BRACED AND SECURED PER THE LATEST APPROVED EDITION OF THE UNIFORM BUILDING CODE (UBC), SEISMIC ZONE 4.
8. SUPPLY AIR DUCT TO & FROM NEW CHILLED WATER COILS SHALL BE SMACNA CLASS 3.0" DUCT CONSTRUCTION.
9. DEMOLITION AND CONSTRUCTION WORK SHALL BE ACCOMPLISHED WITHOUT INTERRUPTING BUSINESS OPERATIONS. MAINTAIN VENTILATION AND POWER TO THE OCCUPIED SPACES. DURING BUSINESS HOURS, WHILE INSTALLATION OF EACH REMAINING CHILLED WATER COIL IS TAKING PLACE. THE BUILDING WILL BE OCCUPIED DURNING CONSTRUCTION.
10. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET INSIDE DIMENSIONS. ALLOW FOR INSULATION THICKNESS.
11. CONTRACTOR SHALL COMPLY WITH SCAQMD REQUIREMENTS FOR VOC's. SUBMIT CERTIFICATES AND REQUIRED DOCUMENTS.
12. PROVIDE DIELECTRIC FITTING TO CONNECT TWO DISSIMILAR METALS.
13. CONSTRUCTION SHALL BE DONE IN SEPARATE PHASES. NO MORE THAN ONE (1) MAJOR ROOM SHALL BE UNDER CONSTRUCTION AT ANY TIME.
14. ALL WORK IS NEW UNLESS INDICATED OTHERWISE.
15. THIS BUILDING IS IN A RESIDENTIAL AREA. NOISE AND WORKING HOURS RESTRICTION APPLY
16. ASBESTOS ABATEMENT:
    ASBESTOS CONTAINING MATERIAL MAY BE PRESENT IN THE WORK AREA. (THE CONTRACTOR SHALL PROTECT THEIR WORK FORCE FROM ASBESTOS HAZARDS IN ACCORDANCE WITH 29 CFR SECTION 1926.58). IN THE EVENT THAT MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE ENCOUNTERED DURING PERFORMANCE OF THE CONTRACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER AND THE BASE ENVIRONMENTAL ENGINEERING.
17. LEAD ABATEMENT:
    THE CONTRACTOR SHALL CONFIRM THAT THE WORKERS ARE TRAINED ON LEAD PAINT ACTIVITIES. COPIES OF EACH OF THEIR CERTIFICATES OF "LEAD BASED AWARENESS TRAINING" SHALL BE DELIVERED TO THE CONTRACTING OFFICER TO INSURE THAT THE PROPER CLEANING TECHNIQUES ARE FOLLOWED DURING CONSTRUCTION.
18. SEE SPECIFICATIONS FOR INSULATION REQUIREMENTS.

REV. NO.	DATE	DESCRIPTION	AGENCY	BY

	PROJECT MANAGER	DATE
	SECURITY	DATE
C O	ENVIRONMENTAL	DATE
O R	SAFETY DIVISION	DATE
I N A	CHIEF FIRE PROTECTION	DATE
F T E	COMMUNICATIONS ENGINEER	DATE
D	BIOENVIRONMENTAL ENGINEER	DATE
	CHIEF OPERATION & MAINTENANCE	DATE

A P P R O V E D	USING AGENCY	DATE
	BASE CIVIL ENGINEER	DATE
	CONTRACT MGT.	DATE

DESIGNED BY	JOHN WILLIAMS	6/15/97 DATE
DRAWN BY	P. J. GUTIERREZ	6/15/97 DATE
CHECKED BY	JOHN WILLIAMS	6/15/97 DATE
SUBMITTED BY	JOHN HOLLAND	6/15/97 DATE

JOB No. 10-50104-18B

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PROFESSIONAL ENGINEER — B. WAYNE MERIT — EXP. 9-30-97 — REGISTERED — MECHANICAL — STATE OF CALIFORNIA — 6-12-97

UNITED STATES AIR FORCE
61 AIR BASE GROUP (ABG)
LOS ANGELES AIR FORCE BASE

PROJECT TITLE:
BLDG. 403 HVAC
COMMUNITY CENTER
FORT MacARTHUR

SHEET TITLE:
LEGEND, ABBREVIATIONS AND GENERAL NOTES

DRAWING NO.
HHEK - 95-0019

DATE: 6/15/97

SCALE: NONE

M-1

SHEET: 3 OF 16